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CLAIMS:

1.        An analysis apparatus, in particular a spectroscopic analysis apparatus, for blood analysis comprising:

- an excitation system (exs) for emitting an excitation beam to excite a target region, and

- a detection system (dsy) for detecting scattered radiation from the target region generated by the excitation beam and for analyzing the scattered radiation, wherein only scattered radiation from blood in capillaries having a diameter below a predetermined diameter value and/or including an amount of red blood cells below a predetermined cell amount is analyzed.

2.        An analysis apparatus as claimed in claim 1, further comprising:

- a monitoring system (ls) for emitting a monitoring beam to image the target region,

- an image processing unit (opd) for processing the image of the target region and for selecting vessel areas in the image showing capillary vessels or vessel portions having a diameter below a predetermined diameter value and/or including an amount of red blood cells below a predetermined cell amount, and

- a control unit (ctrl) for controlling the detection system (dsy) to analyze only scattered radiation from the selected vessel areas and/or for controlling the excitation system (exs) to excite only the selected vessel areas or predetermined areas.

3.        An analysis apparatus as claimed in claim 2, further comprising means for enrichment of plasma signal contribution.

4.        An analysis apparatus as claimed in claim 2, further comprising selection means for a selective analysis of the plasma component.

5.        An analysis apparatus as claimed in claim 2, further comprising means for stopping or slowing down the blood flow, in particular by pressure squeezing.

6.        An analysis apparatus as claimed in claim 2,

wherein the image processing unit (opd) is adapted for selecting vessel areas in the image showing capillary vessels or vessel portions having a diameter below a predetermined diameter value by use of optical vessel tracking means.

7. An analysis apparatus as claimed in claim 2, wherein the image processing unit (opd) is adapted for selecting vessel areas in the image showing capillary vessels or vessel portions including an amount of red blood cells below a predetermined cell amount by use of the contrast in the image.

8. An analysis apparatus as claimed in claim 2, wherein the image processing unit (opd) is adapted for retrieving velocity and distance information of red blood cells in the image and

wherein the control unit (ctrl) is adapted for controlling the detection system (dsy) by use of said velocity and distance information.

9. An analysis apparatus as claimed in claim 2, wherein the control unit (ctrl) is adapted for controlling the excitation system (exs) to excite only predetermined areas in the upper dermis, in particular by use of a penetration depth of less than 300 $\mu$m.

10. An analysis apparatus as claimed in claim 2, wherein the detection system (dsy) is adapted for retrieving intensity information from the scattered radiation and wherein the control unit (ctrl) is adapted for controlling the detection system (dsy) by use of said intensity information.

11. An analysis apparatus as claimed in claim 1, further comprising a sample holding system (100) comprising a capillary (145) containing the blood to be analyzed.

12. An analysis apparatus as claimed in claim 11, wherein said capillary (145) is adapted for moving along its longitudinal axis and/or along the direction of the incoming excitation beam.

13. An analysis apparatus as claimed in claim 11, further comprising means (150) for causing a flow of blood through the capillary (145).

14.          An analysis apparatus as claimed in claim 1, wherein said predetermined
diameter value is 15 μm, in particular 10 μm.

15.          An analysis apparatus as claimed in claim 1, wherein said predetermined
5    blood cell amount is below haematocrit 0.35.

16.          An analysis apparatus as claimed in claim 1, further comprising a radiation
source (exs) to emit an output beam and an optical separation system (BS1) to separate the
monitoring beam and the excitation beam from the output beam.
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17.          An analysis apparatus as claimed in claim 1, further comprising trigger means
(tr) for triggering of the excitation system (exs) and/or the detection system (dsy) for time-
resolved excitation of the target region and/or for time-resolved detection of scattered
radiation from the target region.
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18.          An analysis method, in particular a spectroscopic analysis method, for blood
analysis on vessels comprising the steps of:
- emitting an excitation beam to excite a target region,
- detecting scattered radiation from the target region generated by the excitation beam,
20   - analyzing the scattered radiation,
wherein only scattered radiation from blood in capillaries having a diameter below a
predetermined diameter value and/or including an amount of red blood cells below a
predetermined cell amount is analyzed.